

Remarks

I. Status of the Application and Claims

At the time that the present Office Action was mailed, the claims pending in the application were claims 28-47. No claims have been added or cancelled herein.

II. The Amendments

Claims have been amended to require that reactions produce a yield of at least 94% after a reaction time of 8 hours or less. Support for this may be found on page 4 of the application, lines 31-36. Additional support is provided by Examples 1-4 which demonstrate yields of 94.2 % (Example 2) – 98.6% (Example 3) after reaction times ranging from 4 hours (Example 3) to 6-8 hours (Examples 1, 2 and 4).

Support for all of the other claim amendments may be found in the claims themselves.

The amendments made herein do not add new matter to the application and their entry is therefore respectfully requested.

The Rejections

I. Rejection of Claims Under 35 USC §103

On pages 2-5 of the Office Action, all pending claims are rejected under 35 USC §103 as being obvious over Minnaard, *et al.* (*Synth. Commun.* 29:4327-4332 (1999)) in combination with Schuda, *et al.* (*J. Org. Chem.* 53:873-875 (1988)). The Examiner alleges that Minnaard teaches the hydrogenation of phenylglycine using a rhodium catalyst and that Schuda teaches the hydrogenation of phenylalanine using a platinum catalyst. The Examiner then argues that it would have been obvious to combine the teachings of these references to arrive at the combined platinum/rhodium catalyst used in Applicants' procedure.

Applicants respectfully traverse this rejection.

First, Applicants submit that claims 29-31 have been amended so that they are limited to a subset of the compounds of claim 28 that may alter the Examiner's conclusions concerning the obviousness of these claims.

With respect to all of the other claims, Applicants submit that, in determining whether a particular invention is obvious, all factors must be considered, including evidence of unexpected effects (see, *Richardson-Vicks v. Upjohn* 122 F.3d 1476 (Federal Circuit 1997)). As discussed in the Background section of the application, numerous processes have been described in the literature for the hydrogenation of aromatic compounds and the steps and reagents in these processes could have been combined in a great many different ways. In general, substituting one known step for another, or one reagent for another, would be considered to be obvious. However, an exception is made for “selection inventions.” These may occur in situations where a particular combination produces an unexpected improvement of some type.

In the present case, the mixed platinum/rhodium catalyst is much more efficient, *i.e.*, reactions proceed to completion much more rapidly, than could be predicted based upon the results reported by either of the cited references. Using a rhodium catalyst, Minnaard reports a 92% yield after a reaction time of 40 hours (see page 4330). Using a platinum catalyst, Schuda reports a reaction that proceeds for 18 hours and that appears to produce a yield of 98% (see page 874, first paragraph). Making the same types of products under similar conditions, Applicants report yields of 94.2%-98.6% after reaction times that are less than half of those reported in the references (6-8 hours for Examples 1, 2 and 4 in the application and 4 hours for Example 3). This is clearly an improvement of great importance in an industrial process and goes beyond what could possibly be predicted from substituting one prior art component for another.

In accordance with the discussion above, Applicants have amended claims so that they all now require that processes produce a yield of greater than 94% after a reaction time of 8 hours or less. It is respectfully submitted that these claims are directed to a selection invention that meets the requirements of patentability.

II. Rejection of Claims Under 35 USC §112, Second Paragraph

On page 6 of the Office Action, claims 28-40 are rejected under 35 USC §112, second paragraph based upon the allegation that the phrase “has the general formula” renders them indefinite. In response, Applicants have amended claims to eliminate this phrase and believe that the present rejection has thereby been obviated.

Conclusion

In light of the considerations above, Applicants respectfully submit that all of the present rejections of claims have been overcome. It is therefore respectfully requested that these rejections be withdrawn and that the claims be allowed.

If, in the opinion of the Examiner, a phone call may help to expedite the prosecution of this application, the Examiner is invited to call Applicants' undersigned attorney at (240)683-6165.

Respectfully submitted,

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